

Opposite page:  
Afghan freedom  
fighters flee  
Richardson's special  
effect. Right: Horses  
dodge shelling at  
Afghan bridge near  
climax for *The Living  
Daylights*.



Photo by George Whitear

## New Bond Fills Bill in *The Living Daylights*

by Nora Lee

Produced by Albert R. Broccoli and  
Michael G. Wilson  
Directed by John Glen  
Photographed by Alec Mills

"I was working in the States at the time on a film called *King Kong Lives* for de Laurentiis when the call came. They said there was a chance I would get the Bond film. I thought that was the biggest joke of the year! You don't expect to get the Bond until you've been lighting about 10 or 15 years, you see. Alan Hume, my predecessor, couldn't do it. He was committed to another film. So it happened and I can't tell you — it's one of the big highlights. The only other highlight would be to win an Oscar or something like that, you know," said director of photography Alec Mills on a lovely English spring day. *The Living Daylights* is Mills' sixth Bond film,

but his first as director of photography, and he was clearly pleased and excited that he had been given the responsibility. "My predecessors were big-time cameramen like Freddie Young, Michael Reed and Alan Hume. They've set very high standards with the Bond films over the years. I really hope I live up to their standards."

Mills, along with production designer Peter Lamont and special effects supervisor John Richardson, are at the core of the group of filmmakers that have helped make James Bond a legend — not just among movie goers, but among movie makers. The film had a pre-production schedule of about six

months and a shooting schedule of 19 weeks. It opens on July 31 in the United States. In late April, when the new film was screened in final rough cut for the first time, this core group had an opportunity to talk about their contributions.

Alec Mills' first Bond film was *On Her Majesty's Secret Service* in 1969. (A new Bond was introduced in that film as well — George Lazenby.) Mills became a director of photography in 1980 on a British television pilot "Island of Adventure." His most recent feature credits include *Biddy*, *Lionheart*, and the mini-series "Shaka Zulu." Mills began as a clapper boy and worked his way up, and he

Photo by Keith Hamshire





Above: Love scene with Bond and Kara in Vienna (Glen behind carriage, Mills behind camera.) Right: Alec Mills



Photo by M.C. Lee

credits three cameramen in particular with his education. "If I had three names that I could say I owe for my trade they would be these: Harry Waxman – Harry was the most technically proficient cameraman we had in England at the time; Michael Reed, a real gentleman, taught me how to handle people and get the best from them; and last but not least would be Alan Hume – my predecessor on Bond. The great thing about Alan was his enthusiasm."

Under the tutelage of these men, Mills developed his own style of lighting and he sees it as being well-grounded in "the old school." "For instance, I light from footcandles because I think it is more accurate than reading off the stops. I don't like to use a lot of reflected light. I have seen bounced light – on ladies in particular – and I don't think it's very good. It tends to em-

phasize the pigment in the skin and I can see things I try not to see. I try to make a lady or a man look good. So I like to see the light go through soft papers or silk on the key with a little fill. I also find it's much easier to control than bounced or reflected light. With the fast stocks these days, they pick up every little bit of light that's going," explained Mills. "There is something in the old school of lighting that I like. There is a crispness, a molding of faces. It's for me, but it's not everybody's choice."

That style is part of the recognizable change in the new Bond. Mills noted that Hume's Bonds tended to have a lot of diffusion and softness about them, but he and Glen have gone back to the look of the earliest Bonds. "We had no fancy dress-ups, no diffusion on the artists – we kept it clean. There is a certain amount of diffusion in an anamorphic lens anyway. It's not as crisp as some of the spherical lenses. We felt that there was enough diffusion in the anamorphic system as it was. My style is a sort of *Boys Own* – a glossy, shiny, magazine look – straightforward stuff. Realism in the sense that it was natural. I thought we should keep it

clean and fun – just good entertainment."

Many cinematographers have commented on the difficulties of close-ups with anamorphic lenses. Mills admits that the system can be rough on some actors but thinks that the key is in simply being careful.

"I don't think that anamorphic close-ups are particularly difficult. Anamorphics aren't as kind to faces as longer focal lenses are. And there is one particular shot in this film where Bond turns very close to camera and it probably should have been shot with a different lens for that reason. Obviously, if you use a wide-angle lens you have to be very careful of distortion."

"When you start to work with your artists, you start to notice their imperfections. After you see rushes you realize you can improve on what you've done. But I really didn't have any problem with Maryam d'Abo (Kara). She's quite pretty. And Tim (Dalton) is easy to light because he likes to look rugged. I never used soft light or diffusion on either of them. I didn't have to."

Mills likes to use the Panavision system, if he can. "They are always developing new lenses and that's the most important thing – crisp lenses. I want Bond very crisp, very sharp." Mills also chose Eastman 5247 and 5294. He used the 94 for interiors and night shooting and 47 for exteriors because the two stocks match well. And matching on a Bond film is one of the keys to success.

Mills said, "Matching is one of the difficult things for us. I remember when I was a clapper boy, I could sit in back of the camera truck and look out the window and say 'The sun's not out today, we can't work.' We started in sunshine and we'd wait for it to come out again. Those days are gone. Now we shoot if the sun's out or in, if it's foggy – it doesn't matter. But it's much easier to match with the stocks we have."

"Actually I wouldn't say easier – there are always problems that go with this sort of thing. If you've got a sunset – as we did in

Photo by Keith Hamshire







Morocco when the plane with the diamonds lands – and it's far too red, it'll be printed down to take some of the redness out and still retain the look of evening. Now if you want to match that the next morning then you have to start to introduce your own colors (i.e. CTO filters). You're always struggling – there's never a moment you can sit down and say, 'Well, it's going to be easy from now on.'

To make the struggle more difficult, there was a minimum of three camera crews shooting simultaneously on this picture. It is Mills' job to light for the main unit, but he oversees the look of the entire picture and is constantly meeting with second-unit director/cameraman Arthur Wooster and effects supervisor Richardson. "The second unit on a Bond film is very large and we have to match their work as well as their matching ours. It depends on who starts the sequence off. The opening sequence of *The Living Daylights* was basically second-unit work shot in Gibraltar. They started two weeks before us and we had to match all our close work with the artists to what Arthur had shot – the boot was on the other foot there. It's no problem usually, because we sit down and discuss what we're going to do. 'We'll keep this sequence cool' or 'shoot it in the nice early morning light' or something like that. We might decide that our unit will underexpose a stop or we might want to get a fully exposed negative and let the lab print it down. So when we do go off in different directions, we understand each other," concluded Mills.

Locations in the Bond films are virtually minor characters. *The Living Daylights* sent camera crews to six different countries. And what does the well-traveled cameraman take with him when he globe-trots? "When I know I'll be shooting exteriors I take HMI lights, maybe about three or four 6Ks or 4Ks. If I'm doing night, I like to go tungsten, which is much easier to control." Mills continued, "We did use a crane, but John feels that often a crane can be too much. The shot in Vienna where we started on the orchestra and came around



Photo by Keith Hamshire

through the sunshine and down to a horse and buggy was a very moody shot and it needed that long movement to create the Viennese mood. You can't do it too often because it becomes almost a cliché and if you hold on the whole crane shot it tends to move very slowly. John likes a film to really zip. I like a crane shot, but it's got to be right. I don't like to use it as a gimmick. We do use a lot of dollies. John likes to move the camera quite a chunk. Wherever we go we take a basic 100 feet of track with us anyway."

Vienna was one of the first stops for the location crews. The first unit spent ten very long days shooting exteriors and even some interiors in such places as the Hotel Im Palais Schwarzenberg, a palace begun in 1697; the Sofiensäle Theater, where both Johann Strausses played; and the grounds of the Palace of Schonbrunn, a favorite of the Hapsburgs. The most interesting and maybe the most familiar location for film buffs was the magnificent Wiener Prater – Vienna's large amusement park. It was in this park, the home of the giant ferris wheel called the Riesenrad, that Joseph Cotten confronted Orson Welles in a dramatic moment of *The Third Man*.

To supplement the sequences shot in the park, a set was constructed at Pinewood Studios that included a replica of one of the ferris wheel cars. Here, with a painted backing enhanced by hundreds of little "pea" lights, Bond and the lovely Kara succumb to the romance of old Vienna. The scene is just one example of the tricky matches that are the norm on a film of this type. "We shot in the park at magic hour and of course magic hour lasts about five minutes, then it's totally night. We couldn't really light the entire park – although there was quite a bit of light there already – so we just did as many shots as we could and did the rest at Pinewood. In the studio I tried to warm up the backing a little at the bottom and keep the sky a bit blue to continue that feel of magic hour."

There is really only one way to ensure a good match. "I take notes on the lighting. I am very meticulous," said Mills. "I religiously write them down every night in the script. I don't take camera measurements, however. I've got a good memory for that. I know exactly where we've shot the sequence and I know where my key light was. The real problem is matching light balance."

**Waltz scene rehearsal in Vienna overseen by camera hoisted on Egriment crane.**





Photo by Keith Hamshire

Mills takes light reading inside lobby of Vienna hotel.

Undoubtedly John Glen was aware of ghosts in the Prater. Mills recalls, "He did say in the beginning when we were discussing the look for the film that he wanted to keep it a little *Third Man* which is not easy to do because it was black and white. When we print down we are trying to recreate some of those moody feelings in Vienna, like when Bond comes into the sweet shop and goes upstairs to the bedroom armed to protect the KGB agent – we wanted it not a little spooky but moody."

Then of course, there is the "cameraman's dream" shot. Our hero and his lady have been rescued from the Russians by Afghan freedom fighters. However, Bond must ride out with them the next morning in order to complete his mission. The sun is coming up; the dust is thick in the air. Shafts of light strobe between the riders as they cross the top of a dune. The desert sky matches the color of the desert sand. It's beautiful. "It was a chocolate box shot – the sort of thing you do in a commercial. It's full of grad filters and knocking the shutter down to something like 45 degrees instead of 180 degrees. It meant stopping down as far as I could possibly go without getting a hot

spot on the anamorphic lenses. I was very pleased and it looked very good. But it's a dream for a cameraman – no cameraman could blow it really, if you've just a little time to prepare." No romantic in the audience will likely forget it.

The important ingredient for Mills, and for the others in their fashion, is the rapport on the set. They like to go to work each morning. "I don't think people who go to the cinema realize how vital chemistry is on the floor. It's so important that there be chemistry between the director and the director of photography. John allows me to contribute rather than just be an illuminator. I can tell him my ideas and he'll say, 'It's bloody awful,' or 'Alec, I like it.' I'd hate to be on a film where I had to sit there like a lemon."

#### Production design

Thirteen Bond films ought to be the perfect career for an art director. Beginning as a draftsman on *Goldfinger* and moving through the ranks to production designer – first on *For Your Eyes Only* – sounds like a full life, but Peter Lamont's other credits are equally impressive. He has three Academy Award nominations. One he shares with Ken Adams for *The Spy Who*

*Loved Me*; another is for his work on *Fiddler on the Roof*. His fine touch was also evident on *Sleuth*, *The Seven-per-Cent Solution* and most recently *Aliens*, for which he also received a nomination.

Sitting comfortably in the formal English garden that is part of Pinewood, Lamont explained his long association with 007. "I must admit when I first got involved I thought, 'Oh, James Bond!' I used to follow the stories in the Daily Express. A friend of mine phoned me up who was the art director under Ken Adam on *Goldfinger*, and said 'If you'd like to join us as a draftsman, please do.' At that time, *From Russia With Love* had just come out. I went and saw it and my mind was blown! This was something to be believed – how good everything was and how good the props and sets were.

"When I joined on *Goldfinger* with Ken Adam I didn't know him at all. He just gave me a whole ream of papers and photographs and said 'This is Fort Knox and I think you better draw it up.' He would come in once in a while and make a few remarks and after about four weeks I had a sheaf of drawings of Fort Knox. At that time in the studio they had an estimator. They sent over all the drawings and the set was going to come to about £56,000. At that time it was totally unheard of ... Unheard of! I thought, 'My god, now I've really done it.' Nobody turned a hair! Guy Hamilton, who was the director at the time, said he thought he could economize a bit and they got it down to about £40,000 and said 'Okay, let's do it.'" Not a bad beginning for the new kid on the block.

From Fort Knox to constructing Vulcan Bombers from scraps to building underwater temples – production design on a Bond film is never dull. Lamont's most recent bit of prestidigitization involved turning Ouarzazate airfield in Morocco into an Afghan airfield. "The big problem was we weren't sure we were going to have the cooperation of the Moroccan government. Eventually, we had to have the King's signature. He did



consent and helped tremendously. But it was nerve-wracking at times."

Staging a battle sequence involving Russian aircraft, Freedom Fighters on horseback, Russian jeeps and other military equipment can be a nightmare. First of all, Russian aircraft are hard to get — most of the time. "A lot of the equipment you just can't get, but I must say on *For Your Eyes Only* we did actually charter a Russian helicopter from Poland. It was a rather costly business and we haven't done it since. In the context of this film, we really wanted a big Russian prop-jet transport but they aren't readily available from sources that we know. But the Royal Moroccan Air Force did make a Hercules available to us and we applied decals to make it look Russian. It didn't look bad," recalled Lamont. Ground transport was not as big a problem. "In Morocco the vehicles are French so they don't look particularly British or American. Russian vehicles are available in some instances and, of course, the Royal Moroccan government was helping us."

Since most location shoots involve only exteriors the "reccies" are often flights of fancy. Lamont and others saw the first choice of location for the wintertime car and cello chase in the early spring when there was little snow. Between their trip and the actual filming the sequence changed and new locations were required. A new location was chosen after a wild ride surpassing even Mr. Toad's, but still it was early in the season and no one was sure that there would be the requisite ice on the lake. Mother Nature just doesn't understand scheduling problems.

Lamont continued, "The biggest problem was an early script and a late start abroad. We had to make contingency plans. Supposing that the Moroccan government doesn't come through, what are we going to do? And if the units start to catch up, we have to make sure we are always abreast of what they are doing so we don't hold them up. It's a constant battle and we sometimes



**Above:** Car is hydraulically lowered into Pinewood tank. **Below:** Camera car rigged for close-up of Bond in Gibraltar action sequence.



Photos by George Whitear

have to rearrange the schedule. We have to rearrange it within artists' contracts, what I can do and what has to be achieved."

The locations require a lot of time, energy and careful planning, but Lamont is also in charge of the interior sets that are constructed at Pinewood. For this Bond there were 36 sets. "We never spend very long on any set — maybe two or three days. It's very expensive. The big problem is building, shooting, striking and rebuilding. It's time-consuming. We did some clever revamps and I don't think anyone will see them.

"I suppose our biggest chore was to build a complete Hercules interior with an executive cab-

in that had removable bulkheads. We built the cockpit, the whole cargo bay, and exterior around the cargo bay. The cargo door worked. We also built the exterior of the flight deck. We built the whole thing on C stage on an all-way rocker. It looked quite good and it later cut in with the work the California aerial unit did. To the credit of the editors and the director, I defy anybody to say actually how we did it — what kind of process we used. I will say this, it was done real-for-real in the studio and in the air."

It is Lamont who takes charge of the designs of such familiar Bond features as Q's lab, the look of Q's gadgets, and the always unbelievably expensive lair of the





Richardson and son, Marcus, with radio-controlled "Ladyhawk" represent second and third generation of special effects family.

villain. This is the fourth time Lamont has designed a lab for Q. This one is supposedly at the home office rather than on foreign assignment and Lamont went for a high-tech look. "Philips Electronics has supplied us with thousands of pounds worth of extremely high-tech computers for their business systems. The type of thing they use in international banking. In the early days we were lucky to get one or two computers, now we have two or three dozen of the most sophisticated computers ever made. Everything is set up and operating..."

"The most amazing piece of high-tech equipment we have is a huge video wall. It is made up of 12 individual screens and we have the choice of one huge moving picture or a combination of pictures. This is the first time it has ever been seen on film."

For *The Living Daylights*, the exterior of Whitaker's (Joe Don Baker) villa is represented by the Forbes Museum in Tangier. The museum contains the world's largest private collection of miniature soldiers and military memorabilia covering centuries of land warfare. A fitting home for a villainous arms dealer. The interior was constructed at Pinewood and, as they inevitably are, destroyed by 007 when the villain gets his comeuppance. The interior was based on the interior of the museum. In fact, only after the location crew saw the museum did our villain become a fanatic on military strategy. The Pinewood set included nine life-

sized wax effigies of famous military leaders – all with Whitaker's face.

The change in mood from past Bond films is also reflected in the art direction. There are no sets in *The Living Daylights* on the scale of the space station in *Moonraker*, or the interior of the blimp in *A View To A Kill* or *Octopussy's* floating palace. Instead, there has been a return to realism. Even the kinds of villains are more realistic – a militant Russian general, a KGB double agent, and an American arms dealer – all in keeping with the effort to go back to the books.

For Lamont, as for Glen, there is a certain thrill at being able to "do what you can imagine." He would do another Bond film without hesitation, but, he warns, "People must never forget – all these Bond pictures are a huge team effort. We are only as good as one another. It's all a big tea. We rather like to leave people thinking 'How the hell did they do it!'"

### Special Effects

John Richardson's special effects is one of the ways they do it. Richardson, like most of the Bond family, comes with a history. His father Cliff Richardson practically invented special effects in England in the early '20s at Ealing Studios. John's first film was *Exodus*. He left school for a while at about 15 to help his father in Israel. His credit appears on such familiar films as *A Bridge Too Far*, *Superman*, *ffolkes*, and *Raise The Titanic*, and he recently shared an Academy award for his work on *Aliens*. Richardson's association with Bond began with *Moonraker* and he hasn't missed one since.

If the locations in a Bond film are like a minor character, then the special effects are eligible for best supporting role. Audience expectations are always high – what can they possibly do that they haven't done before? Consider this list from *The Living Daylights*: In the major effects category, there is almost a mid-air collision between a Hercules and a passenger plane, a jeep ejected from the belly of the Hercules with our heroes in it, glass

doors chopping an agent in half, a mid-air battle between Bond and the evil Necros hanging on a net suspended underneath the Hercules – and that's just the beginning. The Aston-Martin returns in one of its largest roles ever: it cuts the chassis off a chase car with its built-in laser, grows skis so it can maneuver on a lake of ice, fires two rockets and blows up a road block, and takes on a little extra speed with a special jet engine.

But Richardson's purview doesn't end there. There are myriad little things: for instance, the ghetto blaster that will literally knock your head off, the sofa that swallows people, the toxic and explosive key ring – all of it comes under the title of special effects.

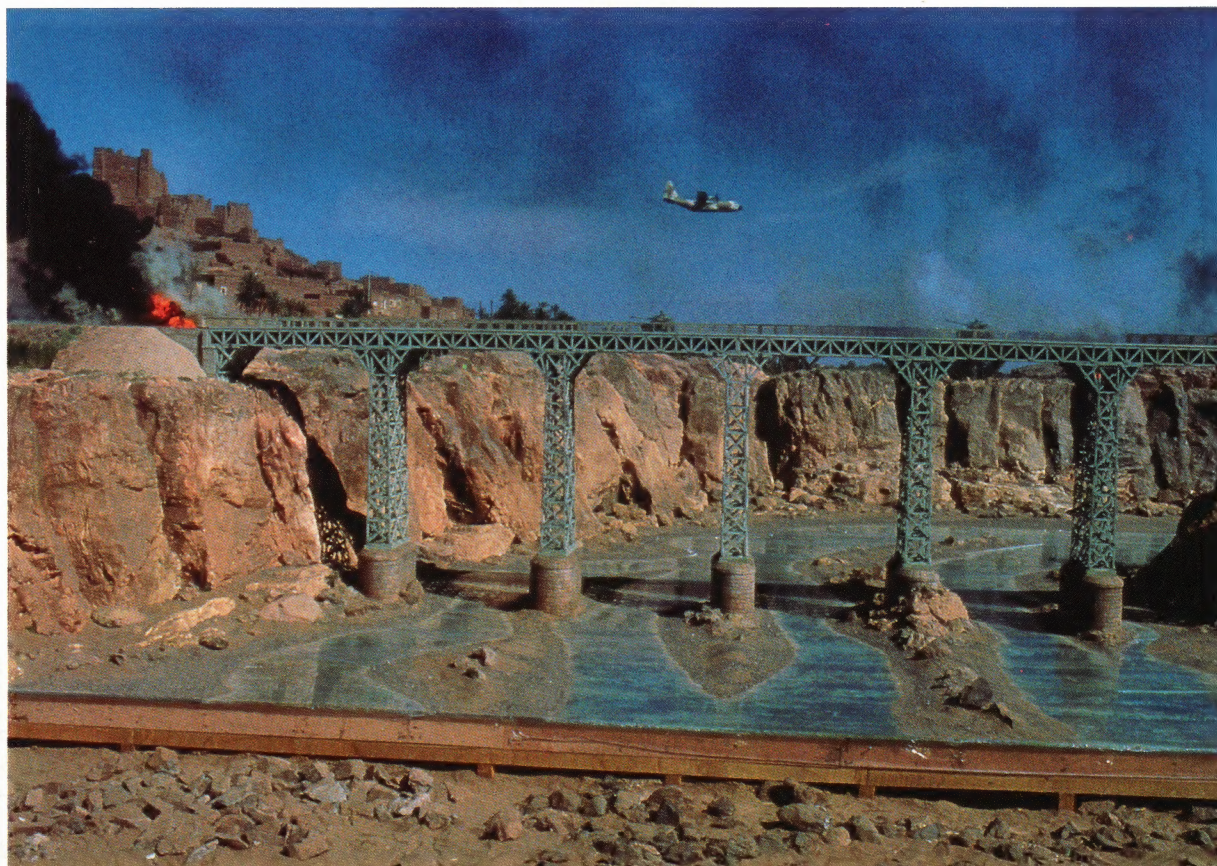
Richardson is a man that John Glen describes as a "bit dour, but he comes up with some lovely ideas." It's not just the ideas but the execution of those ideas that make Richardson's place in the world of special effects. In the rough cut recently viewed at Pinewood, there were maybe four or five shots marked for opticals. Everything else was done, as the British say, real-for-real.

Probably Richardson's best in-camera stunt involved a bridge over a ravine in Morocco. The Freedom Fighters are being chased across it by Russians in various vehicles. The audience sees a bridge over a hundred-foot ravine. There are explosions going off on the bridge while horses and vehicles crowd over it. Eventually Bond blows it up.

In reality the ravine was about 25 feet deep. "We laid a foreground miniature of the ravine and we used the bridge so that you could see vehicles driving along it," explained Richardson. "We used from the hand rail down to the road level of the existing bridge. Everything beneath that was miniature. It was 23 feet from the camera lens to the miniature. It was something like a thousand feet from the camera lens to the real bridge, so that the two married in. We could actually do a nodal pan on it.

"All of the blowing up was actually on another bridge which





Above: Foreground miniature of the bridge (Morocco) with real tanks crossing it. Below: Quarter scale model of the bridge at Pinewood in a fiery explosion.

we constructed at Pinewood. It was about quarter scale. We just had one part of the back wall of the ravine and about two-thirds or three-quarters of the span of the bridge because it was all shot from the bottom looking up. We were trying to keep the widest angle possible to get the height and scale," Richardson said.

Maybe the best trick of all was the fact that the first footage was shot in the Sahara desert in November. It was still very bright and sunny and warm. The explosion was shot in the backlot at Pinewood in January with the crew literally scraping ice off it before shooting.

This Bond has more miniatures in it than other recent Bonds and they appear in unusual places. The first miniature is of a Landrover exploding on Gibraltar, but the most exciting miniature is the near miss between the two airplanes.

Richardson revealed that the entire sequence was miniature, from the moment the aircraft starts to land until it hits the armored car.



"We used two scales of radio-controlled planes because of the difference in size between the Hercules and the landing aircraft. If we built everything to the scale of the landing aircraft, then the Hercules would have been unmanageable. It would have been a model with a 25-foot wingspan. If we built everything to the scale of the Hercules, then the Russian aircraft would

have been too small to rig the explosion. So we had a twelfth-scale Russian aircraft landing and we had a twelfth-scale Hercules roaring down the runway towards it and taking off over the top of it. We had a twelfth-scale armored car in conjunction with it, because we did see all three together. Then as soon as the Hercules was off the ground and out of our shot, we substituted for a



A Mills favorite:  
"chocolate box"  
shot.



Photo by G. Rancinan

sixth-scale aircraft which gave us better angles. We could get the camera lower and see the plane come along and hit the armored car and the wing take the top off the armored car."

The jeep that drops at the last possible moment from the belly of the Hercules was a miniature, too. The jeep itself was only nine inches long. Those shots cut in with shots of Dalton and D'Abo actually driving a specially rigged jeep up over a small ramp and of a landing dressed up with dust explosions to make it look as though it hit much harder.

Car stunts in the Bond series are legendary. At least one car in each film usually winds up in several pieces. There are also many exotic chase sequences. Richardson has worked with French stunt driver Remy Julienne for years, not only in driving the cars but in designing them as well. It was Julienne behind the wheel of the Aston-Martin as it did figure-eights across the frozen Austrian lake. Richardson said, "It was dangerous standing on the ice, let alone driving on it. It was crack-

ing and groaning and moving all the time, which is sort of disconcerting to say the least."

Everything filmed on the lake was full scale, including the Aston-Martin driving around with the shell of a boathouse over it. Only one scene was done at Pinewood. The tires on the Aston-Martin are blown out and James, ingeniously, uses the wheel rims to cut a large hole in the ice. The villains are, of course, right in the middle of Bond's doughnut.

The scene of the chase car sinking was done at the Pinewood tank. Explained Richardson, "We built a hydraulic rig in the tank, filled it with water with an iced surface and then slowly lowered the vehicle into the water." Sounds simple enough.

The Aston-Martin takes its usual beating in this film. Therefore, Richardson had three real cars and a number of dummies made. Whenever it flies through the air, jumps over a dam, slides down a snow bank and blows up, it's the dummy. In most of those instances, the car has been fired from a large

cannon and is unmanned.

Occasionally some of Bond's stunts wind up on the cutting room floor. Richardson could think of two instances on *The Living Daylights*. "We actually did the gag where we chopped the guy in half at the amusement park and you saw the two halves fall away. But, as expected, it was a little too horrific for a Bond film...it ended up on the floor. There was another gag in Tangier in the rooftop chase sequence. Bond got on a carpet – we called it the magic carpet gag – and jumped on some power lines and slid across the rooftops of Tangier. Unfortunately something had to go and that went. It's a pity; it was an amusing gag."

Despite the hundreds of details, scheduling problems, and "fiddly little things," Richardson – like Mills, Lamont and Glen – insists that he is ready for number sixteen. Concluded Richardson, "It's all good fun, I suppose. I'd do another tomorrow – but I would like a couple weeks holiday first."

△





## John Glen Has Long Bond History

### Nora Lee

James Bond is back and so is director John Glen. *The Living Daylights* is Glen's fourth consecutive Bond film, an unprecedented record in a series of record-breaking films.

There have been 15 films based on the adventures of Ian Fleming's suave hero. The first one, *Dr. No*, was made in 1962 and it was a runaway box office hit. Each film since then has done better financially than its predecessor. And, if studio publicity can be believed, over half the world's population has seen James Bond in some form. In the words of producer Albert "Cubby" Broccoli, "It's the most successful film series in the world. The only thing it can be compared to would be some-

thing like the MGM series of Tarzan films."

Directing a Bond film might give some of us ulcers, but not Glen.

Consider the synopsis of the newest Bond film: Returning from a Department of Defense exercise on the Rock of Gibraltar, Bond is sent to coordinate the defection of a KGB agent. The agent gets out despite an attempt to kill him by a beautiful Czech cellist named Kara. During debriefing, the agent tells M of an assassination operation supposedly headed by the formerly levelheaded General Pushkin. Bond is suspicious.

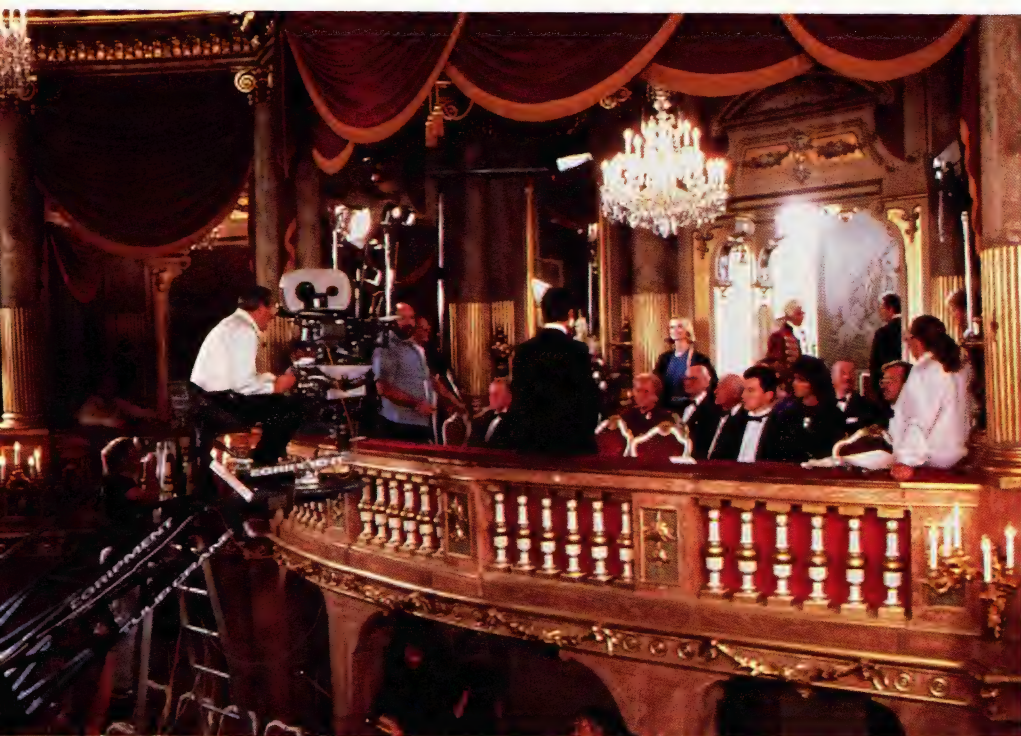
M, however, is convinced and issues an assassination order for Pushkin, to be delivered by

Bond. Meanwhile the KGB defector is abducted. Bond's doubts grow and he determines to find out more about the mysterious cellist. He discovers that she is an innocent victim of a wild KGB plot and rescues her and her cello in a hair-raising chase in Austria.

Enter villain number two - Whitaker, an American arms dealer. Bond teams up with Pushkin to stop Whitaker and the renegade KGB agent, but the plot brings Bond and Kara to Afghanistan. The two of them are prisoners of the Russians there and they escape only with the help of Afghan freedom fighters.

By now the villains' real intentions are clear and first on horseback, then in the skies over





Above: Glen checks crane move on one of the few location interiors—an historic theater in Vienna.

Below: Glen and Dalton confer in the streets of Vienna for *The Living Daylights*.



Afghanistan, the climactic battle rages. Once again the world is safe, thanks to 007. Of course, 007 never would have made it without Glen.

In 1981, Glen was given the opportunity to direct his first feature film – *For Your Eyes Only*. He claims he was undaunted by the task, insisting that making a small film is not necessarily easier than making a big one. “It is probably more difficult to do a small film – a film where you haven’t got

any money, you haven’t got any facilities, you haven’t got the best that’s available. The responsibility is very big on a Bond film, but as a first director somehow it’s nicer. Everyone thinks it’s nicer to have a little film where there’s not much money involved so that if you do make a disaster they won’t cry too much. But they cry if you lose their money – whether it’s a penny or a pound – they cry.” Glen is speaking hypothetically. No tears have been shed over his work.

Glen did not walk onto the set of *For Your Eyes Only* as a neophyte. He began his career around 1947 in the cutting room at Shepperton Studios on such films as *The Third Man*. Legend has it that he dubbed Joseph Cotten’s footsteps. In any event he brought his career full circle when he chose the Prater in Vienna for a sequence in *The Living Daylights*. This amusement park is one of the world’s oldest and is home to the famous ferris wheel that featured prominently in *The Third Man*.

From sound dubbing Glen worked his way up to film editor and second unit director on a number of productions including a British television series called *Danger Man*, better known in the United States as *Secret Agent*. In 1969 director Peter Hunt invited Glen to become editor and second unit director for the sixth film in the Bond series – *On Her Majesty’s Secret Service*. Glen continued in that capacity on two other Bond films, *The Spy Who Loved Me* and *Moonraker*. He is directly responsible for such heart-stopping moments as the opening sequence for *The Spy Who Loved Me* – a ski chase that ends in a parachute ski jump. On *Moonraker*, Glen directed the free fall scenes inside the space station. His directing duties were performed simultaneously with his editorial duties on these films.

Glen’s background is only part of the secret of his success. The people who make Bond films are a family. The idea that film is a collaborative effort is not just hype for this crew. Some members of the team have risen through the ranks on Bond films. Writer Richard Maibaum and art director Peter Lamont have been on 13 of the previous films. Director of photography Alec Mills has been a camera operator on five previous outings. This is special effects supervisor John Richardson’s fourth 007 film. At any one time there are at least three camera crews filming simultaneously on perhaps three continents trying to bring Glen’s vision to the



# Moguls musts!

## NEW EQUIPMENT

50% OFF Super 8 split reels!

Hakuba Super 8 tape splicer .....	\$ 10.00
Goko sound adapter for Super 8 editor .....	25.00
Craig Super 8 editor w/splicer .....	175.00
Ediquip trim bin .....	150.00
Ediquip film rack .....	75.00
35mm 2" cores .....	.20
HP Super 8 2 track splicer .....	25.00
Hervic Super 8 tape splicer .....	20.00
Fiberbilt 25x30x8-1/2" tripod case ..	69.00
Fiberbilt 30x40x8-1/2" tripod case ..	72.00
Fiberbilt 40x50x8-1/2" tripod case ..	72.00
Fiberbilt 30x40x10" tripod case .....	79.00
Fiberbilt 40x50x10" tripod case .....	98.00

## USED EQUIPMENT

Hollywood 3 gang 16mm sync. ...	\$ 295.00
Hollywood 1 gang 16mm sync. w/time counter .....	195.00
Hollywood 2 gang 16/2 gang Super 8 sync. ....	150.00
Hollywood 1 gang Super 8 sync. ...	195.00
Hollywood 3 gang Super 8 sync. ...	250.00
Hollywood 4 gang 35mm sync. ....	395.00
Ediquip 4 gang 16mm sync. ....	395.00
Ediquip 6 gang 16mm sync. ....	550.00
Ediquip 2 gang 35mm sync. ....	250.00
Ediquip 4 gang 35mm sync. ....	395.00
Ediquip 2 gang Super 8 sync. ....	200.00
Ediquip Titewind .....	50.00
Ediquip rewind w/left brake, w/out shaft .....	60.00
Ediquip rewind w/right brake, w/out shaft .....	60.00
Ediquip mag. reader 16mm .....	195.00
Ediquip mag. reader 35mm .....	195.00
Moviescop mag. head adapter oxide up .....	50.00
Moviescop mag. head adapter oxide down .....	50.00
Ediquip amp., 1 input .....	95.00
Ediquip editing bench, 28" high .....	395.00
Bolex Dual 8 splicer .....	75.00
Stanco 8/16 motorized splicer .....	95.00
Maier Hancock 8/16 Hot Splicer ..	350.00
Bell & Howell rewind w/1 reel 16mm shaft .....	25.00
Cine Care film perforation repairer ..	75.00
Laumic 2 channel amp/speaker .....	75.00
Miller flat top hi hat for F head .....	25.00
Miller flat top hi hat for Pro head .....	25.00
Miller leveling hi hat w/F ball .....	90.00
Miller leveling hi hat w/out F ball .....	85.00
Miller Universal fluid head .....	125.00
Bogen 3063 mini fluid head .....	75.00
Bogen 3126 micro fluid head .....	39.50
Birns & Sawyer car mount .....	95.00
NCE car mount .....	250.00

Used equipment is sold subject to your approval and prior sale. Shipping not included.

# HELIX®

310 South Racine Avenue  
Chicago, Illinois 60607  
312/421-6000  
Orders only: 1-800-33HELIX

screen – an impossible task without the experience of this very unusual “family.”

How does one begin a Bond film? “The first thing is, we accept the fact that we can – more or less – film anything we can imagine,” said Glen. “With that premise, we then start to break the actual dream down to be committed to storyboards. Then we analyze each segment to see how best to film it. I usually do a shot list and with that list I employ an artist. We get together and I write these very crude drawings sometimes and he develops them. Then over a period of months he develops not just one storyboard but several because we are working on sequences simultaneously. I like to do a very tight storyboard. From the shot list and the storyboard we are able to convey the idea of the scene to everyone who is involved in building the scene.” Even James Bond must put his pants on one leg at a time.

The building analogy seemed very appropriate to Glen. For him building a bridge and making a film are similar. Each begins with a set of plans and the delegation of specific duties. The main difference, he insisted, is “I have to get people really raring to do it. Pre-production is an exciting stage. When the storyboards are good you can see people react to them.” While storyboards are an invaluable tool for Glen and his crews, he does not board the dialogue scenes, only the action and effects scenes. “I’m going to do the rest of the film myself so I don’t have to convince people of anything.”

The action sequences and location shoots are usually the first things completed on a Bond film. They are working while sets are being constructed at Pinewood Studios. For the most part, locations are used for exteriors only. Glen, art director Lamont, and associate producer Tom Pevsner do the initial location scouting (“rec-ies” to the British). Exotic locations are as much a trademark of the Bond series as the opening title sequence and the pre-credit teaser.

You can’t send Britain’s top agent across the Thames or down to Brighton. In *The Living Daylights* filming took place in Gibraltar, Vienna, Morocco, Italy, England and the United States.

Once Glen has chosen the locations and boarded the action and effects sequences, his direct involvement eases. “My input on the action sequences is mainly in designing the action and in choosing the men that actually do the derring-dos for me. I work up the storyboard and then find a chap who has talent and imagination and can actually do it.”

There are times when Glen wishes he was that chap. “I miss doing the action sequences a lot. I think what I miss most about it is working with a very small team. Alec and I have worked together on a lot of these and when you’re working with 20 people, life is very simple. When you’re dealing with 150 people life gets very complicated. And it has nothing to do with making a film. It’s just that lots of people create lots of problems. Sometimes they are wonderful problems – sometimes they are not.”

He has learned to avoid some problems. An editor and a director have different concerns. Once considered an editor/director, Glen likes to think he has become simply a director. Although, he admits, “To a degree I think like an editor when I am directing. But I am learning not to. You mustn’t think in terms of shots all the time. You have to think in terms of the scene. The actual shooting of the scene is a technicality in a sense, but the spirit of the scene is something else. You have to let it play.”

Although spiritually never far away from the second unit crews, at some point Glen’s attention must turn to the first unit and the direction of his artists. He has an almost spontaneous approach to directing the scenes. He enjoys walking around the sets when they are complete and just looking at them. “Then with Alec we go around and choose the best angles. We call the actors in and

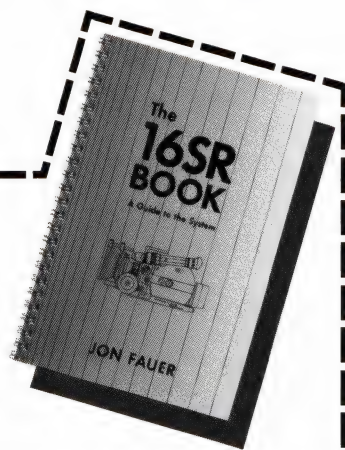


# THE 16SR BOOK

## A Camera Assistant's Guide to the System.

Our new 16SR Book, designed for both assistants and SR owners, incorporates both a detailed guide to Arriflex 16SR camera systems and a complete assistant's manual for prep, operating and maintenance techniques that can be used on most camera systems. New York Director of Photography Jon Fauer's goal was to detail every aspect of the SR from lenses to electronics and to illustrate a variety of production solutions to problems assistants commonly face. So, in addition to sections on the SR's design, handling and range of lenses and accessories, we've included assistant-oriented sections with in-depth coverage on setups for simple lens tests, checking depth and collimation, marking eyepiece focus, and video assist adjustments.

The Book also features exploded-view drawings of every SR component, an end-of-day cleaning/maintenance checklist, Zeiss depth-of-field charts, an SR camera ID pullout section and a Worldwide Arriflex Service Center list. And there's much, much more. Call or write us or your camera dealer.



Order by phone using VISA or MasterCard by calling (914) 353-1400. Or, send your check or money order for \$16.95 plus \$1.95 shipping to: Arriflex Corporation, 500 Route 303, Blauvelt, New York 10913

Name

Address

City

State  Zip

# ARRI

Arriflex Corporation: 500 Route 303, Blauvelt, NY 10913.  
(914) 353-1400 TWX 7105752624 FAX (914) 425-1250  
600 No. Victory Blvd., Burbank, CA 91502. (818) 841-7070  
TWX 9104984641 FAX (818) 848-4028  
© 1987 ARRIFLEX CORPORATION

have rehearsal and I let the actors fill the set and feel how they want to move within the set. If you make your mind up too early about where the actors are going to be in the set then you harness them in such a way that they aren't free to express themselves. It is far better to stand back and just say 'action' and see what they do."

"They" in this case, includes a new Bond. Timothy Dalton has replaced Roger Moore as the cool, clever, charming 007. Dalton is a classically trained actor whose film credits include *The Lion in Winter*, *Cromwell*, *Wuthering Heights*, *Mary, Queen of Scots* and the upcoming *Brenda Starr*. According to Glen he is "quite his own man." With a new Bond came a chance for a new kind of Bond film. Broccoli and Glen both admit that they have tried to go back to the original intent of Fleming.

Glen explained matter-of-factly, "We changed the style. We didn't want Tim to be like any other Bond. We wanted him to be completely different. We *wanted* him to be his own man, if you like. We didn't want a carbon copy of Roger Moore or Sean Connery. He's such a good actor. What he's brought to the role is the feeling that somehow his relationships are real. That's something I've tried to nurture and it's come off. It's where I think he is quite different from his predecessors.

"We wrote the script before we cast Tim, but we adapted the script quite a lot. It was four weeks or so into the film before we knew we had him. It was very awkward because he was already doing a film in America. He arrived off the plane from his last shot and went straight on to our set. In fact I shot round him for a day-and-a-half. When he arrived his hair wasn't the right length to do anything with and he had lost a lot of weight because he had been working so hard. He needed a bit of building up.

"Naturally, too, he was a bit suspicious of us Bond people. He'd heard all these stories about us. He wasn't going to be rail-

roaded with any sort of a cliché Bond. This sort of spirit was great. Without his realizing it, it was exactly what we wanted. We had a real live wire in our midst and he was nobody's fool.

"It was a challenge and hard work initially to get him to believe in us. It must be awful for someone to come in and see that vast experienced crew - all of them having done seven or eight or nine, well, some chaps have been on all 15 pictures - they are all *very* experienced. But everyone was aware that he needed encouragement and they gave it..."

Glen likes to surround himself with people he likes and can work with. Alec Mills is convinced that is one of the main reasons he was asked to light *The Living Daylights*. The two have worked together for many years. But Glen thinks that Mills brings a little something extra to his job as director of photography. "Imagination. That's it in a word. The skills go without saying. On our films, I think it's fair to say there are probably 30 or 40 cameramen who would do a very good job. But what we need is something more. It's an enthusiasm coupled with a very lively imagination and being prepared to throw the rule book out the window.

"I think everyone on my film has to contribute. I don't want any dead weights. I want everyone lively and imaginative. We have fun on the set. Making a Bond film is a fun thing to do. Why make it anything else?" asks Glen.

"I think Bond films are something that you dream about. There aren't too many projects like Bond films about. We are able to do what you imagine. We have the wherewithal to go out and do it. I wouldn't say that money isn't a consideration. We care very much about getting value on the screen - which may be one reason why Bond films are always successful. We represent value for money.

"And we make the films for the audience - believe it or not."

△



Bond and villain (B.J. Worth and Lombard) fight it out. Photo taken by Sanders from out on net. Middle: Net falls out from plane as opium bags fall away. Below: Hero cuts boot off so villain falls to his death to end the movie.



performed in several previous Bond films, including *Moonraker* when they fought to the death on the outside of a diving, barrel-rolling Beechcraft D-18.

The director of photography was Phil Pastuhov, who shot some of the aerial sequences in *Octopussy*, *Moonraker*, and *The Right Stuff*. Fast becoming one of the most highly regarded aviation cinematographers in the business, he was engaged early to organize pre-production work.

Our largest and most expensive prop was the aircraft itself. We had to match the Hercules C-130 used by the main unit in Morocco and supplied to them by the Moroccan military. The C-130 is extremely costly and relatively unavailable, except for military purposes. We chose a similar rear-ramped cargo plane, the C-123, that would match the main unit's C-130 when shot from certain angles and painted the same desert camouflage pattern. This decision forced us to be very careful in our framing to avoid the inherent continuity problem.

All of our filming was to take place in the air but we had to satisfy four criteria in choosing our location. The subject plane had to appear to be flying over the mountains that matched the ones photographed earlier by the main unit in Morocco, the sun had to be on the plane's left side and arc somewhat parallel to the mountains, our flight corridor had to be in an FAA approved area, and there had to be access roads so we could reach the stuntmen if they fell or were kicked off the net. Naturally, these roads had to be out of our camera's view.

Our action was to be filmed right to left. The indicated angles on the storyboard were 3/4 looking forward and down, 3/4 looking forward and up, shooting backwards and down from inside the aircraft, and POV shots on the cargo net itself. Accordingly, our filming was broken down into four general camera positions: air-to-air from two chase planes, positions inside the C-123, camera mounts that were to be attached to the left wing and underneath the tail of the



*Sanders photographs over the shoulder of stuntman Jake Lombard to get view out on net. Sanders is a participant, shooting with a still camera from his helmet as well as using a motion picture camera.*

## Aerial Derring-do for *Living Daylights*

by Sparky Greene

The James Bond series epitomizes excitement in cinema. Even in this age of high-tech achievements in cinematography and special effects there is little substitute for the "real thing." Some shots can't be faked and the producers of Bond series, Albert "Cubby" Broccoli and Michael Wilson endeavor with each succeeding film to deliver a new high in cinema excitement.

"High" was the key word when I was assigned the job of supervising one of the aerial unit operations for the new Bond film, *The Living Daylights*. We were asked to shoot a scene in which James Bond and his villainous adversary, Necros, fall out of the rear ramp of a

C-130 Hercules cargo plane, clinging onto a net filled with opium bales. At 6500 feet over the mountains, Bond and Necros fight to the death on the net as it trails behind the C-130.

My job was to effectively translate John Glen's vision of the scene, though he was some 10,000 miles away directing the main unit in Morocco. I had been given storyboards and had several meetings with John and the stunt coordinator, B.J. Worth, in London. The boards were like a wish list. The idea of hanging a 1500 lb. net with two men on it behind a plane flying at 100 knots and 6500 ft., was just that, only an idea. It had never been

done and the FAA's position was that it was aeronautically unsound. It turned out to be a learn-by-doing experience. What lay ahead of us was months of planning and experimentation before we actually shot the scene.

The first question was how to shoot this scene safely. Safety is always the primary concern, and at 6500 feet above ground it was essential that everything revolved around this consideration. There were too many ways that the stuntmen and crew could be seriously injured or killed.

B.J. Worth was to be Bond, and his partner, Jake Lombard, was to double as Necros. They had both

Photos by Tom Sanders





# IMAGINE...

WHAT YOU COULD DO IF YOU  
HAD A DOLLY IN A BRIEFCASE...



# IMAGINE...

IF YOU HAD TRACK  
ROLLED UP IN A BAG...



**DON'T IMAGINE ANYMORE  
IT'S HERE!**

**MATTHEWS BRIEFCASE  
DOLLY AND FOCUSTRAK**



**(818) 843-6715  
(212) 691-4720**

2405 Empire Ave., Burbank, CA 91504  
Capitol Bldg., 236 W. 26th St., NY, NY 10001

C-123, and a POV camera out on the net.

The air-to-air angles were shot from a Cessna 210, which is a high winged small aircraft that allowed us the 3/4 looking forward and down angle. For the 3/4 looking forward and up angle, we secured a vintage C-46 which had room for two camera positions.

We had triangulating remote camera mounts made for the C-123. These were mounted on the underside of the left wing to shoot backwards towards the tail, and two on the tail to shoot both up and down towards the action.

Inside the plane, two positions were created by our grip, George Hill. One was on a platform that was built at head height over the edge of the rear ramp, the other was in the rear part of the fuselage beyond the rear ramp. These positions were definitely not for acrophobics. At times, when the C-123 banked steeply, Pastuhov would find his feet dangling into 6500 feet of empty air. The G force and his safety harness kept him with us. The flight crew each had the option of parachutes or safety lines. I preferred a parachute because I wanted to have maximum mobility in the aircraft, especially when operating hand-held at the edge of the ramp, or climbing up onto the platform.

Filming the action in a conventional manner was not enough for this scene, so we decided to shoot some POV and over the shoulder angles from the stuntmen's position on the net. For this we used Continental's Helmet Camera.

This camera was designed by Freddy Waugh and, as the name implies, it is mounted on a helmet which is worn by the cameraman. The camera itself is custom made and is a "one of a kind." It features single pin registration, 100 ft. loads, a variable speed (which we used for the villain's plunge to his death), a variable shutter, and a military tank-type sight for composition.

In the past only Randy Deluca, a very accomplished aerial cameraman, had used the helmet camera with heavy Panavision lenses. Sadly, Deluca died a few months prior to our start and it

became necessary to train someone new. We chose Tom Sanders, an experienced freefall cameraman.

The weight of the helmet camera with the Panavision 30 or 40mm lens, a video reference, and the helmet itself is about 22 pounds. Though not heavy to hold, it becomes potentially lethal if you're making a parachute landing. A cameraman can suffer severe neck strain, or even worse, a broken neck. Fortunately Tom has a very strong neck, as well as a very strong sense of composition, and the requisite skydiving experience. He asked for "a nice soft sand-dune to land in," when he jumped off the net during the filming of the villain's death fall.

We conducted several days of testing in November. Our first objective was to get the net and bag to "fly" behind the C-123 without the extra weight seriously affecting the flight characteristics of the plane. Our special effects men, Woody Romine and Dan Grannett had designed a net that was connected to three electric winches and 6 separate lines which were controlled by a winch operator inside the plane. Jake Lombard's helicopter sling experience proved to be an invaluable aid in fine tuning the rigging. An emergency cutaway device was manufactured so that, in the event the net jeopardized the aircraft, we could cut it loose.

Once we were able to stabilize the net, the stuntmen and Tom, our helmet cameraman, crawled out on it. It was essential that they became familiar with their "stage" which alternated between sailing serenely and bucking wildly. The net's actions were never completely predictable as its shape and load shifted daily.

In early December, at the beginning of the rainy season, and during the shortest days of the year, we were finally ready. The special wardrobe, which included hidden parachutes for Worth and Lombard, had also been tested by this time. Three weeks of dangerous, frustrating, and very exciting filming was ahead of us.

Everything was shot with Panavision equipment and our film



**GO WITH THE BEST...**

**ARRIFLEX REPAIR SPECIALISTS**

• FACTORY TRAINED TECHNICIANS • GENUINE FACTORY PARTS • ALL WORK TO FACTORY STANDARDS

SALES and RENTALS too, of course!

PHONE OR WRITE:

**Roessel**

CINE PHOTO TECH inc.

In NEW YORK - 48-20 70th Street, WOODSIDE, N.Y. 11377 • 718-424-1600



## Angénieux From Century.

Angénieux Lenses? Call Century. We are the authorized U.S. distributor of Angénieux's renowned 16 and 35mm motion picture lenses. Additionally, for cine & video lenses, we provide:

- ✓ Factory spare parts.
- ✓ Expert service work.
- ✓ Warranty work.
- ✓ Modifications & remounts.
- ✓ Custom optical systems.

When you think Angénieux, think Century.

**Century** precision optics

10713 Burbank Bl., Hollywood, CA 91601  
(818) 766-3715 Telex: 066-2419  
ANS BK: CENTOPICS LSA

stock was Kodak 5247. We rehearsed and conducted extensive pre-flight briefings on the ground because communication in the C-123 was virtually impossible, due to the high level of noise. Communication between myself, the pilots of each plane, the stuntmen, the director of photography, the other cameramen, and the winch operator was nightmarish once we were airborne and was often reduced to hand signals. The scene was broken down into the smallest possible blocks of action because the stuntmen could only stay outside the plane a few minutes at a time. The speed of the aircraft and the altitude caused a wind chill factor of minus 100 degrees Fahrenheit out on the net. Neither B.J. nor Jake were able to wear gloves for the scene and frostbite was a serious possibility.

The angle of the winter sun on the mountains and the restrictions of our flight path put our stuntmen in the shadow of the plane's tail. The background exposure was a solid F16 and the stuntmen were F5.6. This necessitated our mounting two 4K HMI lights above the rear ramp on either side of my camera position, for fill light. We used portable Honda generators that had been modified with a 60 cycle crystal control.

Though we had adjusted the HMI's generators for service at an altitude of 7000 ft., we still had a continuous problem with the carburetors. It became necessary to install a frequency meter in the generator's output line, to ensure that we were getting the proper 60 cycle output. Any deviation from this causes a strobing effect which can't be seen at the time but is quite evident when the film is projected. The carbon monoxide exhaust from the generators had to be vented out the plane. We gave these exhaust pipes a wide berth as contact with them could quickly burn a hole in our parachute rigs.

Tom Sanders always filmed the action with the sun to his back so we would change our flight coordinates when he was shooting and turn off the HMIs.

At one point during the action, Bond cuts open the cargo

net causing the bags of "opium" to be released. This part of the shot was the most difficult to prepare and the most dangerous to perform. It had to be covered from as many angles as possible. We didn't want to have to repeat it. At this point we flew a three ship formation and had five cameras rolling. It took us three days before weather, planes, net, and stuntmen combined to give us the shot.

One of the objectives when filming action that involves stunts is to make the action appear more dangerous than it actually is for the stuntmen. Midway through the production, both B.J. and Jake agreed that this had been the toughest job they had ever worked on but not necessarily the most dangerous. That was before what should have been one of the easier shots.

In the last action of the scene, Bond crawls back into the plane, having caused Necros to fall to his death. On the storyboard this is depicted as an easy climb up the net and into the plane. In actuality, as soon as Jake dropped away from the empty net, it started whipping up and down uncontrollably. B.J. clung on, narrowly missing having his skull crushed against the plane's tail on the upward swing and smashed into the ramp on its downward path. He held on for an interminably long three swings of the net. Though we were a few yards away from him there was nothing we could do, but continue to film. Finally, he let go! A few more interminably long seconds elapsed before his parachute opened. He told me later that he had never been closer to being killed. Our rescue crew, who always tailed the airplane in a jeep, was underneath him as he descended under canopy. They reported that, though he was quite shaken up by the experience, B.J.'s first words, heard 100 feet off the ground were, "Get the camera, this is a great shot!" △

*The author was supervisor of the U.S. stunt unit for The Living Daylights. He is also a director and producer of feature films.*